

**Docket No. 0094.050****REMARKS**

Claims 1-22 were filed with the application and are currently pending.

The Office Action states that the Oath or Declaration is defective because it does not identify the post office address of each inventor. This issue was discussed in a telephone conversation with Examiner Klemanski on April 6, 2004; the Examiner's help in this matter is greatly appreciated. In accordance with that discussion, applicants point out that the application data sheet filed with the application lists an address for each inventor, including a ZIP code, and that the address listed on the Declaration for each inventor is the same as the post office address for each, and includes a ZIP code. Therefore, waiver of the requirement for a new oath/declaration is respectfully requested. However, if a waiver cannot be granted, applicants will supply a new Declaration signed by all of the inventors.

The specification is objected to as failing to provide proper antecedent basis for the subject matter of claim 6. As claim 6 is herewith canceled, the objection is moot.

**Rejections Under 35 U.S.C. § 102:**

Claims 1-4 and 7-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by JP 60/258541 (hereinafter JP '541). The rejection is traversed.

As noted in the Office Action, JP '541 relates to a photosensitive material that includes an antistatic layer containing metal oxide particles and a hydrophilic binder in a surface adjacent to a plastic film base. Particle size of the metal oxide is preferably 0.01-0.7 $\mu$  (10-700 nm). (Dialog Abstract, PAJ Abstract (copy attached)). JP '541 does not teach coating of an imaging layer with a composition that includes nanoparticles or producing an imaging layer having scratch resistance and optical clarity.

Claims 1-21 are now canceled, and new claims 23-34, which depend from claim 22 and contain subject matter originating from claims 2-14, are added. Claim 22 is amended to clarify that the nanoparticle dispersion is coated on the surface of an imaging layer in order to make the imaging element scratch resistant, while maintaining optical clarity of the element. Support for the amendment may be found in the specification in paragraphs 23 and 24. Since JP '541 discloses that the fine particles are disposed in a surface adjacent to the plastic film support,

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applicants submit that claims 22-34 are not anticipated by the reference. It is believed that the rejection is hereby overcome.

Claims 1-4 and 7-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by JP 63/287849 (hereinafter JP '849). The rejection is traversed.

JP '849 relates to a photosensitive material that includes at least one layer of a silver halide photosensitive material containing electrically conductive metal oxide particles, in order to improve antistatic properties of the material (Dialog Abstract, PAJ Abstract (copy attached)). Particle size of the metal oxide is 0.01 - 0.7 µm (10 to 700 nm), preferably 0.02 - 0.05 µm (Id.). As amended claim 22 and its dependent claims require that nanoparticles be present in a coating disposed over the imaging layer, and JP '849 teaches that the particles are included in the imaging layer, applicants submit that JP '849 does not anticipate the claims as amended. It is believed that the rejection is hereby overcome.

Claims 1-4, 7-15, and 17-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by JP 56/143431 (hereinafter JP '431). The rejection is traversed.

JP '431 relates to a photographic material having an antistatic conductive layer containing crystalline metal oxide particles dispersed in a binder (Dialog Abstract, PAJ Abstract (copy attached)). Particle size of the metal oxide particles is less than 0.5 µm (500 nm) and binders include gelatin, carboxymethylcellulose and polyvinyl alcohol (Id.). The metal oxide may be included in a silver halide emulsion layer (Id.). JP '431 does not disclose forming a coating over an imaging layer, and also does not disclose that such a layer can protect the imaging layer while maintaining optical clarity. Therefore, applicants submit that claims 22-34 are not anticipated by the reference. It is believed that the rejection is hereby overcome.

**Rejections Under 35 U.S.C. § 103:**

Claims 1-6, 8-15, and 18-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,020,419 to Bock et al. (hereinafter Bock). The rejection is traversed.

Bock relates to coating compositions containing a resin binder and a material consisting of nanoscale primary particles obtained by jet dispersion of the particles in the composition (Abstract, claim 1). Suitable binders include polymers and copolymers of (meth)acrylic acids

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and their esters, polyether, polyester, polycarbonate, polyurethane, epoxy resins, and especially, polymers bearing hydroxyl groups, such as polyacrylate polyols, polyester polyols, polycaprolactone polyols, polyether polyols, polycarbonate polyols, polyurethane polyols, and hydroxy-functional epoxy resins. Examples of nanoscale materials suitable for use in Bock's invention include pyrogenic silica, nanoscale aluminum oxide, aluminum oxide hydrates, titanium oxide, and zirconium oxide, and other nanoscale oxides of aluminum, titanium, zirconium, tantalum and tin (col 3, lines 46-51). The compositions are intended for use as high-grade transparent lacquer applications (col. 1, lines 13-22).

Claim 22 is herein amended to recite particular film forming hydrophilic colloids that are suitable for use in photographic applications, specifically "gelatin, dextran, gum arabic, zein, casein, pectin, collagen derivatives, collodion, agar-agar, arrowroot, albumin, polyvinyl alcohol, polyacrylamide, poly(vinylpyrrolidone), or a mixture thereof". None of these materials are disclosed by Bock. Nor is there any mention in Bock of an imaging element or an imaging layer, or protection thereof, since the patent is not directed to photographic materials. Because of these deficiencies, applicants submit that claim 22 and its dependent claims are not obvious in view thereof. It is believed that the rejection is hereby overcome.

On the basis of the above remarks, applicants submit that the claims as amended are patentable over all of the cited references, and meet all requirements for patentability. Therefore, allowance of the claims is respectfully requested.

*Respectfully submitted,*

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ATTACHMENTS: PAJ Abstracts for JP 60/258541, JP 63/287849 and JP 56/143431

## PATENT ABSTRACTS OF JAPAN

(11) Publication number : 60-258541

(43) Date of publication of application : 20.12.1985

(51) Int.CI.

G03C 1/82  
C09K 3/16

(21) Application number : 59-114737

(71) Applicant : FUJI PHOTO FILM CO LTD

(22) Date of filing : 05.06.1984

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### (54) PHOTORESISTIVE MATERIAL

#### (57) Abstract:

**PURPOSE:** To provide a satisfactory antistatic property by incorporating a layer contg. fine particles of a specified crystalline metallic oxide, a hydrophilic binder and a compound swelling the support into at least one side adjacent to a plastic film support provided with a photosensitive layer.

**CONSTITUTION:** When at least one photosensitive layer is formed on a plastic film support to obtain a photosensitive material, a layer contg. fine particles of ZnO, TiO<sub>2</sub>, SnO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, In<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, MgO, BaO or MoO<sub>3</sub> as a crystalline metallic oxide or a composite oxide thereof, a hydrophilic binder and a compound swelling the support is incorporated on at least one side of the support. It is preferable that the electrically conductive crystalline oxide has  $\leq 105\Omega\text{cm}$  volume resistivity. The hydrophilic binder includes cellulose ester, and the compound swelling the support includes resorcin. A coating liq. contg. said compounds is directly applied to the support. A satisfactory antistatic property is provided, the adhesive property is improved, and no trouble is caused with respect to the stickiness even at high temp. The antistatic property is independent of humidity.

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## PATENT ABSTRACTS OF JAPAN

(11) Publication number : 63-287849

(43) Date of publication of application : 24.11.1988

(51) Int.CI.

G03C 5/26  
G03C 1/08

(21) Application number : 62-123498

(71) Applicant : FUJI PHOTO FILM CO LTD

(22) Date of filing : 20.05.1987

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### (54) IMAGE FORMING METHOD

#### (57) Abstract:

**PURPOSE:** To obtain a silver halide photographic sensitive material having an excellent antistatic effect even under low humidity by incorporating a conductive metal oxide into one layer of the photographic sensitive material and processing the material within 15sec of development time.

**CONSTITUTION:** The conductive metal oxide is incorporated into at least one layer of the silver halide photographic sensitive material and the processing is executed within 15sec of the development time in a method for forming an image by developing and fixing the silver halide photographic sensitive material for laser scanner having at least one layer of the silver halide emulsion layer subjected to IR spectral sensitization on one side of a base. The preferably conductive metal oxides to be used are ZnO, TiO<sub>2</sub>, SnO<sub>2</sub>, etc., and the compound oxides thereof are particularly preferably ZnO, TiO<sub>2</sub> and SnO<sub>2</sub>. The good photographic sensitive material having the improved antistatic capacity is thereby obtd.

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(21)Application number : 55-047664

(71)Applicant : FUJI PHOTO FILM CO LTD

(22)Date of filing : 11.04.1980

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### (54) PHOTOGRAPHIC SENSITIVE MATERIAL WITH IMPROVED ANTISTATIC PROPERTY

#### (57)Abstract:

PURPOSE: To effectively prevent a silver halide photographic sensitive material to be electrically charged even at low humidity without deteriorating the sensitivity by forming an electrically conductive layer contg. fine particles of >1 of specified nine kinds of crystalline metallic oxides or their composite oxide dispersed in a binder.

CONSTITUTION: Electrically conductive particles of  $\leq 10\mu$  particle size are used as an antistatic agent. The particles are composed of  $\geq 1$  kinds of crystalline oxides selected from ZnO, TiO<sub>2</sub>, SnO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, In<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, MgO, BaO and MoO<sub>3</sub> and 0.01W30mol% donor forming different metal such as Al or In to ZnO. One or more electrically conductive layers each contg. said antistatic agent dispersed in a binder such as gelatin are formed. The amount of the agent used is 0.05W20g/m<sup>2</sup> of a sensitive material, and the content in the layer 5W95vol%. The agent may be added to a silver halide emulsion layer. Thus, sufficient antistatic properties are provided even at low humidity without exerting unfavorable influence on the sensitivity, etc. and increasing fog while maintaining high light beam transmittance.

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